## AMENDMENTS TO THE CLAIMS

Claims 1-61 (cancelled)

62. (NEW) An analysis-chip, which comprises one or more reactors with minimal height, wherein said reactor comprises at least:

1). one or more striped-capillary reaction-chambers, wherein said reaction-chamber comprises:

i). top plane and bottom plane with a width more than 600μm;

ii). probe-ligand and substrate probe-region in which said probe-ligand is immobilized;

iii). closed partition-structure with a height of 1-1000μm, optimally 1-500μm; and

iv). inlet and outlet,

2). reactor structure with minimal-height; which comprises at least open partition-structure comprising:

i). substrate blank region with a width of 0.5-10mm; or/and

ii). one or more following convexes with a height less than 1000μm, optimally less than 500μm: hydrophobic convex, highly-hydrophobic convex, and water-absorbing convex;

and optionally, iii). convex flow-path comprising high-hydrophilic convex with a width of 5-4000μm, and a height of 0.05-1000μm, optimally 0.05-500μm relative to said substrate probe region;

and optionally, reactor-protecting structure comprising protective unit with a distance less than 1000μm, optimally less than 500μm from said substrate probe-region;

and optionally, 3). marking-system convex, a marker-containing convex that does not cover said probe-ligand,

wherein:

(1). said top plane and bottom plane are parts of top unit and bottom unit of said striped-capillary reaction-chamber, respectively;

(2). said substrate probe-region is on said top plane or/and bottom plane;

(3). said closed partition-structure is placed between said top plane and bottom plane;

(4). material and dimension of said planes, and distance between said top plane and bottom plane are such that the capillary phenomenon of analysis media can take place in said striped-capillary reaction-chamber;

(5). said substrate blank region and substrate probe region are on the same plane of a same substrate, which presents a water-absorptivity less than 0.1g/g and a contact angle of the surface static water as 40-80°;

(6). said highly-hydrophobic convex contains, at least in its partial surface, highly-hydrophobic material, wherein said highly-hydrophobic material presents a water contact angle of 40° bigger than that of said substrate probe region;

(7). said hydrophobic convex contains, at least in its partial surface, hydrophobic material, wherein said hydrophobic material presents a water contact angle as 55-80°;

(8). said water-absorbing convex contains, at least in its partial surface, water-absorbing material, wherein said water-absorbing material presents a water-absorptivity more than 0.1g/g;

(9). said highly-hydrophilic convex contains, at least in its partial surface, highly-hydrophilic material, wherein said highly-hydrophilic material presents a water contact angle less than 40° ;

and(10). said protective unit closes at least partially said reactor structure when no sample is subjected, and it is irreversibly removed completely or partially when sample is to be subjected.

63. (NEW) The analysis-chip of Claim 62,

wherein said convex is formed by solidifying liquid substance or/and fixing solid substance onto surface of said chip,

wherein:

1). said liquid substance includes solution, paint, gel, emulsion which contain said highly-hydrophobic, hydrophobic, highly-hydrophilic and water-absorbing materials respectively;

and 2).said solid substance includes plate, film, board, tape, and powder which contain said highly-hydrophobic, hydrophobic, highly-hydrophilic and water-absorbing materials respectively.

64. (NEW) An analysis-chip, which comprises one or more flow or non-flow reactors with minimal-height,

wherein said reactor comprises at least one or more striped-capillary reaction-chambers with a height of less than 1000μm, optimally 500μm, and optionally, reactor-protecting structure,

wherein said reaction-chamber comprises:

1). top plane and bottom plane with a width more than 600μm;

2). probe-ligand and substrate probe-region in which said probe-ligand is immobilized;

3). closed partition-structure with a height of 1-1000μm, optimally 1-500μm; and

4). inlet and outlet,

wherein:

(1).said top plane and bottom plane are parts of top unit and bottom unit of said striped-capillary reaction-chamber, respectively;

(2). said substrate probe-region is on said top plane or/and bottom plane;

(3).said closed partition-structure is placed between said top plane and bottom plane;

(4). material and dimension of said planes, and distance between said top plane and bottom plane are such that the capillary phenomenon of analysis media can take place in said striped-capillary reaction-chamber;

and (5). said substrate probe-region presents a water-absorptivity less than 0.1g/g and a water contact angle as 40-80°.

65. (NEW) The analysis-chip of Claim 62, wherein:

1). said closed partition-structure presents a height of 1-300μm, optimally 30-100μm;

2). said top plane presents a width of 1000-15000μm and a length more than 1000μm; and 3).said bottom plane presents a width of 1000-15000μm and a length more than 1000μm.

66. (NEW) The analysis-chip of Claim 65, wherein said closed partition structure includes one or more of the following reversible or irreversible enclosing structures:

1). thermal enclosing structure;

2). chemical enclosing structure;

3). reversible or irreversible adhesive layer;

4). highly-hydrophobic layer;

and 5). mechanic enclosing unit including coating, plate or tape of elastic polymer.

67. (NEW) The analysis-chip of Claim 64, wherein said top unit or/and bottom unit of said reaction-chamber present a thickness less than 1mm, optimally less than 0.2mm, and a detecting-light transparency rate more than 90%.

68. (NEW) The analysis-chip of Claim 64,

wherein said probe-ligand is immobilized on either said top plane or said bottom plane,

wherein said plane with said immobilized probe-ligand presents hydrophilic property whereas said plane without said immobilized probe-ligand presents hydrophobic property.

69. (NEW) The analysis-chip of Claim 64, wherein said top plane is made of glass material whereas said bottom plane is made of hydrophilic or hydrophobic plastic.

70. (NEW) The analysis-chip of Claim 64, wherein one or more said probe-ligands are immobilized in one area whereas one or more ligats of said ligands are immobilized in one other area in said probe region, wherein said ligand and ligate include antigen and antibody.

71. (NEW) An analysis-chip, which comprises one or more open reactors with minimal-height, wherein said reactor comprises probe-ligand, substrate probe region, open partition-structure with minimal height, and optionally, reactor-protecting structure, wherein said open partition-structure comprises:

1). substrate blank region with a width of 0.5-10mm;

2). highly-hydrophobic convex or/and water-absorbing convex, all of which presents a height less than 1000μm, optimally less than 500μm relative to said substrate probe region,

wherein:

(1). said substrate blank region and substrate probe region are on the same plane of a same substrate, which present a water contact angle as 40-80°;

(2). said highly-hydrophobic convex contains, at least in its partial surface, highly-hydrophobic material, wherein said highly-hydrophobic material presents a water contact angle of 40° bigger than that of said substrate probe region;

and (3). said water-absorbing convex contains, at least in its partial surface, water-absorbing material, wherein said water-absorbing material presents a water-absorptivity more than 0.1g/g.

72. (NEW) The analysis-chip of Claim 62, wherein said highly-hydrophobic convex presents a height of 0.1-100μm.

73. (NEW) The analysis-chip of Claim 62, wherein said highly-hydrophobic material presents a water contact angle that is over 70°bigger than that of said substrate probe region.

74. (NEW) The analysis-chip of Claim 62, wherein said highly-hydrophobic material presents a water contact angle that is over 90°bigger than that of said substrate probe region.

75. (NEW) The analysis-chip of Claim 62, wherein said highly-hydrophobic material presents a water contact angle that is over 110°bigger than that of said substrate probe region.

76. (NEW) The analysis-chip of Claim 62, wherein said highly-hydrophobic material includes highly-hydrophobic organic material or/and highly-hydrophobic nano-material.

77. (NEW) The analysis-chip of Claim 62, wherein said highly-hydrophobic material includes one or more of the following materials:

1). highly-hydrophobic organosilicon and its derivatives;

2). highly-hydrophobic fluororesin and its derivatives;

3). highly-hydrophobic polymer; and

4). paint or/and solid substance containing highly-hydrophobic nano-particle.

78. (NEW) The analysis-chip of Claim 62, wherein said water-absorbing material includes one or more of the following:

1). natural water-absorbing material;

2). solid porous material of hydrophilic inorganic compound; and

3). water-absorbing material of synthetic polymer.

79. (NEW) The analysis-chip of Claim 78, wherein said water-absorbing material includes one or more of the following: a). capillary-structure-containing paper product, cotton product, or/and sponge as well as their modified materials, b). calcium salt; c). water-absorbing materials based

on cellulose or its derivative, d). water-absorbing materials based on starch or its derivative, and e). water-absorbing materials based on synthetic resin as well as compound generated by grafting, blocking and copolymerizing, paper product, cotton product, sponge and its modifier, calcium salt, water-absorbing cellulose material, water-absorbing starch material, and water-absorbing synthetic resin produced by grafting, blocking and copolymerizing.

80. (NEW) An analysis-chip, which comprises one or more open non-flow reactors with minimal-height,

wherein said reactor comprises at least probe-ligand, substrate probe region, open partition-structure with minimal height, and optionally, reactor-protecting structure, wherein said open partition-structure comprises:

1). substrate blank region with a width of 0.5-10mm;

and optionally, 2).hydrophobic convex with a height less than 1000μm, optimally less than 500μm relative to said substrate probe region,

wherein:

(1). said substrate blank region and substrate probe region are on the same plane of a same substrate, which presents a water-absorptivity less than 0.1g/g and a water contact angle as 40-80°; and

(2). said hydrophobic convex contains, at least on its partial surface, hydrophobic material, wherein said hydrophobic material presents a water contact angle of 55-80°.

81. (NEW) The analysis-chip of Claim 62, wherein said hydrophobic convex includes hydrophobic coating.

82. (NEW) The analysis-chip of Claim 81, wherein said hydrophobic coating includes colored hydrophobic line, or/and colored hydrophobic strip.

83. (NEW) An analysis-chip, which comprises one or more flow reactors with minimal-height, wherein said reactor comprises at least:

1). probe-ligand,

2). substrate probe region with a water-absorptivity less than 0.1g/g and a water contact angle as 40-80°;

3). convex flow-path comprising high-hydrophilic convex with a width of 5-4000μm and a height of 0.05-1000μm, optimally 0.05-500μm relative to said substrate probe region;

and optionally, 4). reactor-protecting structure,

wherein said high-hydrophilic convex contains, at least in its partial surface, highly-hydrophilic material, wherein said highly-hydrophilic material presents a water contact angle less than 40°.

84. (NEW) The analysis-chip of Claim 62, wherein said convex flow-path refers to a coating with said highly-hydrophilic material.

85. (NEW) The analysis-chip of Claim 62, wherein said convex flow-path comprises hydrophobic convex or/and highly-hydrophobic convex as its partition structure, wherein said convex presents a height less than 1000μm, optimally less than 500μm.

86. (NEW) The analysis-chip of Claim 62, wherein said convex flow-path comprises immobilized separating-media, including electrophoresis media or chromatography media.

87. (NEW) The analysis-chip of Claim 83, wherein said reactor comprises also the open partition structure.

88. (NEW) An analysis-chip, which comprises one or more reactors with minimal-height, wherein said reactor comprises at least probe-ligand, substrate probe region, marking-system convex, and optionally, reactor-protecting structure, wherein said marking-system convex refers to marker-containing convex that does not cover said probe-ligand.

89. (NEW) The analysis-chip of Claim 62,

wherein said marking-system convex refers to convex of controlled marker-releasing system;

wherein said controlled marker-releasing system comprises marker and presents a half-releasing-period of said marker of more than 10 seconds, optimally more than 30 seconds;

wherein said marker comprises labeling reagent and marking-ligand,

wherein:

1). said labeling reagent includes one or more of the following reagents: enzyme, fluorescent dyestuff, chemiluminescent catalyst, nonferrous metal or nonferrous metallic salt, dyestuff and paint;

and 2). said ligand includes one or more of the following substances: antigen, antibody, biotin, drug ligand polypeptides, DNA, RNA and the fragments thereof.

90. (NEW) The analysis-chip of Claim 89, wherein said controlled marker-releasing system comprises said marker and controlled-releasing agent.

91. (NEW) The analysis-chip of Claim 89, wherein said marking convex presents a height less than 1000μm, and is fixed around the array of said probe-ligand in said reactor or inside the array of said probe-ligand to form an array of probe-ligand and marking system.

92. (NEW) The analysis-chip of Claim 90,

wherein said convex of controlled marker-releasing system includes mono-sandwiched or multi-sandwiched structure made up of said marker and controlled-releasing agent;

wherein said sandwiched structure refers to structure where the concentration of said marker is higher inside than outside.

93. (NEW) The analysis-chip of Claim 90, wherein said controlled-releasing agent includes water-soluble organic compound or organic compound that will disintegrate in water solution.

94. (NEW) The analysis-chip of Claim 93, wherein said organic compound includes one or more of the following materials: carbohydrate and its derivatives thereof, plant starch and modified starch, plant glue, animal glue, modified cellulose, polymer and condensate.

95. (NEW) The analysis-chip of Claim 62,

wherein said reactor-protecting structure comprises protective unit with a distance less than 1000μm, optimally less than 500μm from said substrate probe-region;

wherein said protective unit closes at least partially said reactor structure when no sample is subjected, and it is irreversibly removed completely or partially when sample is to be subjected.

96. (NEW) An analysis-chip, which comprises one or more reactors with minimal height, wherein said reactor comprises:

1). easily-detachable substrate easily dismantled if needed, or/and

2).reactor-protecting structure with minimal-height, comprising protective unit, wherein:

i). Said height, a distance from substrate probe-region to bottom plane of said protective unit is less than 1000μm, optimally less than 500μm;

and ii). said protective unit closes at least partially said reactor structure when no sample is subjected, and it is irreversibly removed completely or partially when sample is to be subjected.

97. (NEW) The analysis-chip of Claim 95, wherein said protecting unit includes one or more of the followings: organic film or/and plate, film or/and plate of metal-organic complex, and slide.

98. (NEW) The analysis-chip of Claim 97, wherein said protecting unit is connected with the reactor through one or more of the following reversible/ irreversible enclosing structures: thermal enclosing structure, chemical enclosing structure and reversible or irreversible adhesive layer.

99. (NEW) The analysis-chip of Claim 97, wherein said protecting unit is precut for the convenience of possible removal.

100. (NEW) An analysis-chip with a high density of reactors, wherein:

1). said density of reactors is more than 2 reactors/$cm^2$, optimally more than 3 reactors/$cm^2$ on at least one plane of a substrate; and

2). said reactor comprises partition structure with a height less than 1000μm, optimally less than 500μm.

101. (NEW) The analysis-chip of Claim 100, wherein said density is more than 5 reactors/$cm^2$.

102. (NEW) The analysis-chip of Claim 100, wherein said reactor refers to said minimal-height reactor.

103. (NEW) A base-plate, comprising:

1). more than one of substrate probe regions; and

2). one or more of the following reactor structures:

(1). the convex flow-path by Claim 62;

or (2). the open partition structure.

104. (NEW) A qualitative or/and quantitative analysis method, including:

1). subjecting sample into reactor of said analysis-chip and taking probe-selective reaction and marking reaction respectively, wherein said analysis-chip is that of anyone from Claim 62;

and 2). washing the reactor and analyzing the result of the reaction.

105. (NEW) A test device, which comprises cleaning unit,

wherein said cleaning unit is used for cleaning up the residual in analysis-chip reactor when reaction is finished;

wherein said cleaning is performed through absorption with water-absorbing material in said cleaning unit;

wherein said water-absorbing material presents a water-absorptivity larger than 0.5g/g.